We claim:

1.   A method for increasing the survival or growth of motoneurons comprising exposing the motoneurons to a low molecular weight heparin.

2.   A method for preventing of a motoneuron disease in a patient in need thereof comprising administering to the patient a pharmaceutically effective amount of a low molecular weight heparin.

3.   The method according to claim 2 wherein the motoneuron disease is amyotrophic lateral sclerosis, progressive spinal muscular atrophy, infantile muscular atrophy or lateral sclerosis.

4.   The method according to one of claims 1 to 3, wherein the low molecular weight heparin has a mean molecular weight of between 1000 and 10000 daltons.

5.   The method according to claim 4, wherein the low molecular weight heparin has a mean molecular weight of between 1500 and 6000 daltons.

6.   The method according to claim 4, wherein the low molecular weight heparin has a mean molecular weight of between 4000 and 5000 daltons.

7.   The method according to one of claims 1 to 3, wherein the low molecular weight heparin consists of oligosaccharides having a 2-O-sulfo-4-enopyranosuronic acid at one of their ends.

8.   The method according to one of claims 1 to 3, wherein the low molecular weight heparin is obtained by depolymerization of a heparin ester using a base.

9.   The method according to one of claims 1 to 3, wherein the low molecular weight heparin is enoxaparin.

10. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is nadroparin.

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11. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is parnaparin.

12. The method according to one of claims 1 to 3, wherein the low molecular
10 weight heparin is reviparin.

13. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is dalteparin.

15 14. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is tinzaparin.

15. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is danaparoid.

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16. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is ardeparin.

17. The method according to one of claims 1 to 3, wherein the low molecular
25 weight heparin is certoparin.

18. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is CY222.

30 19. The method according to one of claims 1 to 3, wherein the low molecular weight heparin is SR90107/ORG31540.